Force Health Protection Branch
NATO MilMed COE
Munich

Short Update 48a
COVID-19
Coronavirus Disease
04th of December 2020

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GLOBAL
↗
65 221 976
Confirmed cases
41 970 900
recovered
1 506 614 deaths

USA
↗
(new cases/day 203 942)
14 076 683
confirmed cases
5 350 895 recovered
275 030 deaths

India
(new cases/day 35 551)
↘
9 571 559
confirmed cases
9 016 289 recovered
139 188 deaths

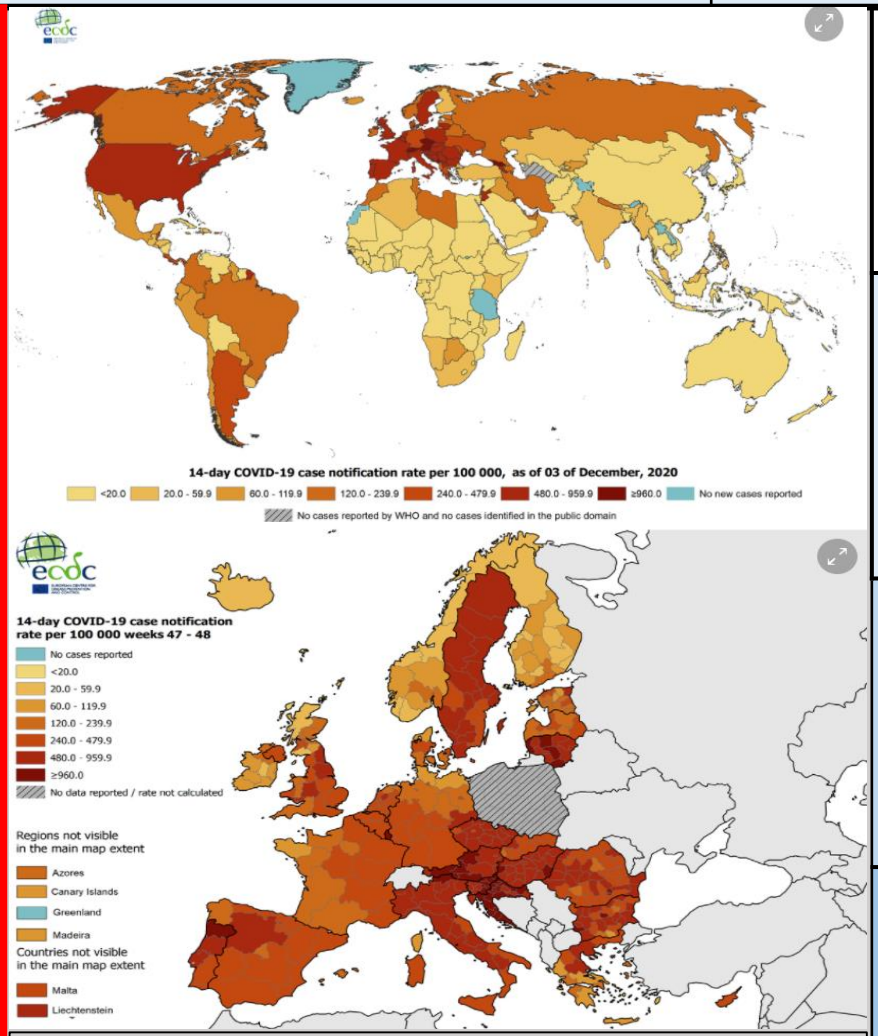
Brazil
(new cases/day 49 863)
→
6 487 084
confirmed cases
5 792 539 recovered
175 270 deaths

News:

- **Doctors Without Borders;** has called for fairness in the distribution of corona vaccines and would like countries that have already assured vaccines to make a mandatory levy. More than half of the vaccines are already reserved. The levy should protect people in humanitarian emergencies and crisis situations as well as health workers around the world.
- **UN**: At the special session of the UN General Assembly that began on Thursday morning, almost 100 heads of state and dozen of government leaders are talking about coping with the corona pandemic. This crisis is a test for multilateralism.
- **ECDC:** published an overview of COVID-19 vaccination strategies and vaccine deployment plans in the EU including interim considerations for priority groups, evidence to be considered for the prioritisation of target groups, logistical considerations and monitoring systems for post-marketing surveillance (e.g. vaccine coverage, safety, effectiveness and acceptance).
- **WHO** recommends against the use of remdesivir in COVID-19 hospitalized patients, regardless of disease severity, as there is currently no evidence that remdesivir improves survival and other outcomes in these patients.
- **ECDC:** published Guidelines for COVID-19 testing and quarantine of air travellers as an Addendum to the Aviation Health Safety Protocol.
- **CDC:** has updated their options to reduce quarantine for contacts of persons with SARS-CoV-2 infection using symptom monitoring and diagnostic testing as well as their recommendations on testing and international travel, and considerations for gathering of family and friends during the holidays, as of 02 Dec.
- **WHO's** health emergencies online learning platform: OpenWHO.org.
- Find Articles and other materials about COVID-19 on **our** website here.
- Please use **our** online observation form to report your lessons learned observations as soon as possible here.

Topics:

- **Global situation**
- **Subject in Focus:** Vaccination strategies and vaccine deployment plans in the EU
- **Timeline COVID-19 infection**
- **In the press**



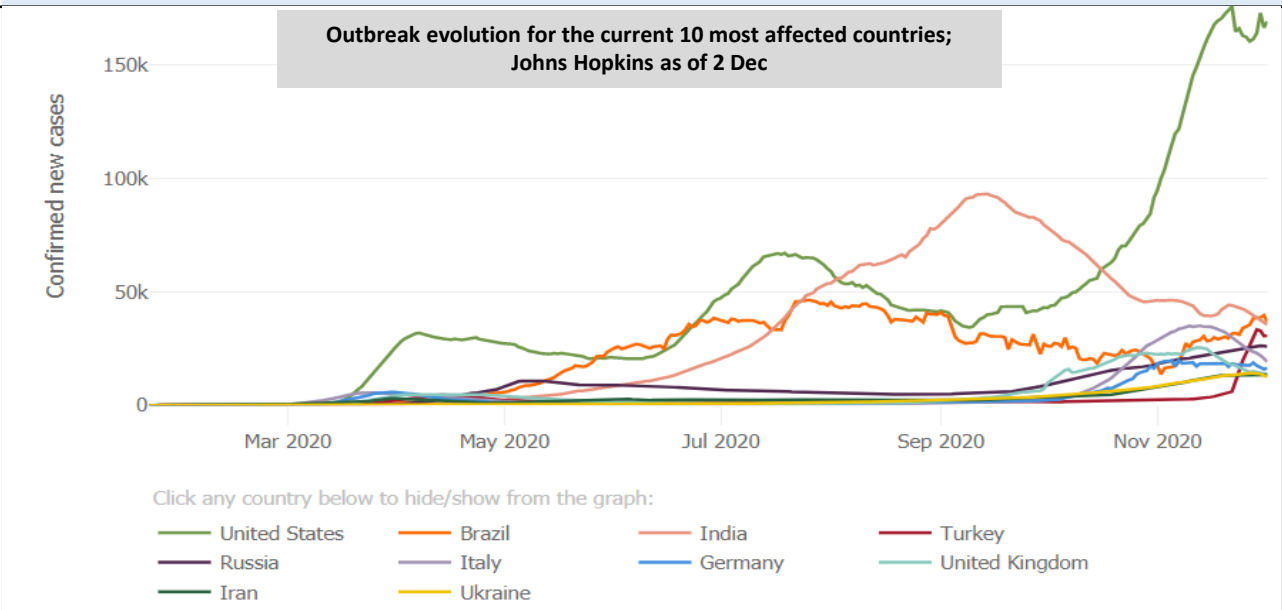
EUROPE
↘
18 646 201
confirmed cases
7 872 500 recovered
426 434deaths

Russia
(new cases/day 27 829)
↗
2 354 934
confirmed cases
1 843 526 recovered
41 173 deaths

France
(new cases/day 12 696)
↘
2 257 331
confirmed cases
166 940 recovered
54 140 deaths

SPAIN
(new cases/day 10 127)
↘
1 675 902
confirmed cases
150 376 recovered
46 038 deaths

Global Situation



Vaccination News

WHO: Announced that in the beginning of the vaccination there will not be sufficient vaccinations in place to prevent a surge in cases for three to six months. Therefore it is important to maintain social distancing and other precautions.

Eurasia Group: Global equitable access to COVID-19 vaccines estimated to generate economic benefits of at least US$ 153 billion in 2020–21, and US$ 466 billion by 2025, in 10 major economies.

MODERNA: The US pharmaceutical company Moderna plans to produce 100 to 125 million of its corona vaccine in the first quarter of next year. The majority of it is intended for the United States. 20 million cans are to be produced by the end of this year. Moderna applied for emergency approval of its vaccine in the US and Europe on Monday. Clinical studies have confirmed an effectiveness of over 94 percent. According to new research from the US Institute for Allergies and Infectious Diseases, it offers immunity for at least three months. The EU Commission has agreed with Moderna that if approved, 80 million vaccine doses will initially be delivered and a further 80 million if required.

PFIZER: The pharmaceutical company Pfizer has had to halve the delivery target for its corona vaccine this year, due to delays in expanding the supply chain, to 50 million doses. For the coming year, however, the original plan to deliver more than a billion vaccine doses will remain.

RUS: In Moscow vaccination centers will open on Saturday. Applicants will be able to register from Friday, with the first doses of the homegrown Sputnik V vaccine earmarked for teachers, doctors and social workers.

CZE: Far-reaching easing of the corona protective measures came into force on Thursday. Restaurants, pubs and the entire retail trade are allowed to reopen. The number of customers is limited to one person per 15 square meters of retail space. The night curfew does not apply. Museums and galleries are allowed to open with restrictions, theaters and cinemas remain closed.

ITA: Italy reported the highest number of corona deaths within a day since the pandemic began, with almost a thousand deaths on Thursday. According to the authorities, 347 deaths were counted in the Lombardy region alone, which is hardest hit by the pandemic.

RUS: On Thursday the authorities report 28,145 new infections within 24 hours - more than ever before.

USA: The number of corona deaths recorded within 24 hours in the USA has exceeded the threshold of 3,000 for the first time since the beginning of the pandemic. The highest figure so far with 2,607 deaths was recorded on April 15. For the second time since the beginning of the pandemic, the number of new infections reported within one day exceeded the 200,000 mark. The highest value to date was registered on Friday with around 205,000 new cases. Experts had expected a nationwide increase in infections with a view to the Thanksgiving holiday last week.

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Los Angeles has tightened its corona requirements. The ordinance prohibits public and private gatherings of more than one household; there are exceptions for protests and church services, among other things. In shops there are also upper limits for the number of customers who are allowed to be there at the same time. Restaurants are only allowed to offer food for delivery or collection. The beaches should remain open in compliance with the guidelines. Violations of the order can result in fines or imprisonment.

KOR: South Korea reported with 629 cases within 24h the highest number of daily new cases in nine months. Most of them are local infections in the interior of the country. Almost 80 percent of the cases were therefore in the densely populated greater Seoul area.

IND: Government says domestic air carriers can step up operations to 80% of pre-COVID capacity, from the 70% hitherto allowed. Domestic flights, which were suspended in March along with international routes, resumed back on May 25 with only 30,000 passengers. The figure has since risen and "touched a high" of 252,000 on Nov. 30. cheduled international commercial services to and from India remain suspended until Dec. 31, though special flights have been operating under an Indian government repatriation mission and bilateral arrangements with various countries.

ZAF: returning to stricter restrictions in risk areas in the fight against the corona pandemic. The sale of alcohol was limited to certain time windows and consumption in public is prohibited. Gatherings of more than 100 people is banned. There is a night curfew.

CHN: carrying out sweeping inspections of food importers, supermarkets, e-commerce platforms and restaurants to prevent the spread of COVID-19 through imported products that must be kept constantly cold. The risk of the disease entering through imported cold chain links is continuously rising as the exchange of international personnel and goods increases, government says.

Global Situation

Source: https://www.who.int/publications/m/item/weekly-epidemiological-update---1-december-2020
https://www.paho.org/en/news/2-12-2020-countries-urged-face-challenge-better-access-health-populations-african-descent

Global epidemiological situation; WHO as of 01 Dec

In the past week, global case incidence remained high at approximately 4 million new cases, although a slight downward trend was observed. Weekly deaths, however, continued to rise, with over 69 000 new deaths reported globally.

The **Region of the Americas** was the largest contributor for new weekly cases last week.

Although the **European Region** reported a continued decrease in new weekly cases, it still accounts for the second greatest proportion of new weekly cases, while deaths rates have continued to increase and accounted for approximately half of the new global deaths in the past week.

The **Eastern Mediterranean Region** registered a slight decline in both cases and deaths last week, after four months of continued increases.

Relatively small increases were reported from the **African and South-East Asia Regions**, and more substantively from the **Western Pacific Region** last week.

In the past week, the five countries reporting the highest number of cases were:

- **United States of America;** reporting over 1.1 million cases, a 0.3% increase from the previous week,
- **India**; reported over 297 000 cases, an 6% decrease,
- **Brazil;** reported over 218 000 new cases, a 4% increase,
- **Italy**; reported over 184 000 new cases, a 22% decrease and
- **Russian Federation;** over 179 000 new cases, a 10% increase.

Figure 1: COVID-19 cases reported weekly by WHO Region, and global deaths, as of 29 November 2020**

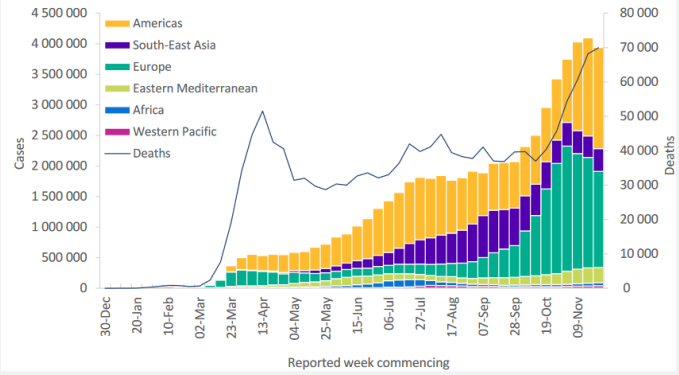
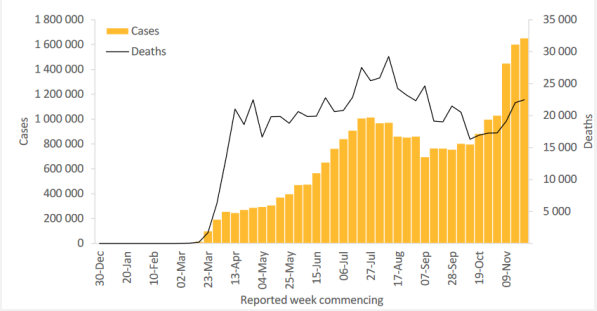


Table 1. Newly reported and cumulative COVID-19 confirmed cases and deaths, by WHO Region, as of 29 November 2020**

WHO Region	New cases in last 7 days (%)	Change in new cases in last 7 days *	Cumulative cases (%)	New deaths in last 7 days (%)	Change in new deaths in last 7 days*	Cumulative deaths (%)
Americas	1 652 915 (42%)	3%	26 216 515 (42%)	22 488 (32%)	2%	720 228 (50%)
Europe	1 573 354 (40%)	-13%	18 495 511 (30%)	35 321 (51%)	5%	412 362 (28%)
South-East Asia	371 180 (9%)	6%	10 738 733 (17%)	4 888 (7%)	4%	163 454 (11%)
Eastern Mediterranean	248 909 (6%)	-1%	4 045 906 (7%)	5 800 (8%)	-8%	102 160 (7%)
Africa	48 483 (1%)	3%	1 494 524 (2%)	974 (1%)	-10%	33 512 (2%)
Western Pacific	40 489 (1%)	12%	874 705 (1%)	445 (1%)	1%	17 261 (1%)
Global	**3 935 330 (100%)**	**-4%**	**61 866 635 (100%)**	**69 916 (100%)**	**3%**	**1 448 990 (100%)**

Figure 4: Number of COVID-19 cases and deaths reported weekly by the WHO Region of the Americas, as of 29 November 2020**



Region of Americas

The COVID-19 pandemic "disproportionally affects the most vulnerable – especially the populations of African descent. Although data for the region is limited, death rates among black and mixed-race Brazilians are 1.5 times higher than among white citizens, and in Ecuador, Afro descendant males are three times more likely to die from COVID-19 than their female counterparts and they suffer 50% higher death rates from COVID than men in the country's mestizo population. In the U.S., the CDC reports that a black person is 2.6 times more likely to contract the virus and twice as likely to die from COVID-19 than their white counterparts.

This disproportional burden is not unique to COVID-19, and in fact it's reflected across our health spectrum, from non-communicable diseases to maternal health outcomes. Especially for women of colour, who typically have a harder time accessing the health services they need.

Afro descendants represent about a fifth of all people in the Americas. They're the dominant racial group in most Caribbean countries, over half of the Brazilian population, 13% of the U.S. population and about one in ten people in Ecuador and Panama. A lot of afro descendants are among the essential workers who for example, run our public transportation or care for the elderly. Despite their invaluable contributions to society, their jobs, often in the informal sector, make it harder for them to work from home, practice social distancing or take time off, so they're more likely to get infected and, consequently, at higher risk of dying from the virus."

Furthermore systemic racism may pose barriers to appropriate care, result in mistrust in health providers and, ultimately, cause worse outcomes for black patients in many countries in our Region. COVID-19 has shed a harsh light on this reality – and against the backdrop of urgent calls for racial equality in the U.S., Brazil and other countries in the region – the WHO urge health authorities to face this pressing challenge.

The continuing increases in cases of COVD-19 showed that, especially in places where the caseload has not been controlled swift measures needed to be implied.

Therefor WHO is focusing on better data for targeted prevention and care, greater participation in health programs that address communities of African descent, and improved access to health services.

CDC´s Options to Reduce Quarantine for Contacts of Persons with SARS-CoV-2 Infection Using Symptom Monitoring and Diagnostic Testing

CDC currently recommends a quarantine period of **14 days**. However, based on local circumstances and resources, the following options to shorten quarantine are acceptable alternatives.

- Quarantine can end after **Day 10** *without testing* and if *no symptoms* have been reported during daily monitoring.
  - With this strategy, residual post-quarantine transmission risk is estimated to be about 1% with an upper limit of about 10%.
- When diagnostic testing resources are sufficient and available, then quarantine can end after **Day 7** if a diagnostic specimen *tests negative* and if *no symptoms* were reported during daily monitoring. The specimen may be collected and tested within 48 hours before the time of planned quarantine discontinuation (e.g., in anticipation of testing delays), but quarantine cannot be discontinued earlier than after Day 7.
  - With this strategy, the residual post-quarantine transmission risk is estimated to be about 5% with an upper limit of about 12%.

In both cases, additional criteria (e.g., continued symptom monitoring and masking through Day 14) must be met and are outlined in the full text.

Subject in Focus:

Overview of COVID-19 vaccination strategies and vaccine deployment plans in the EU and the UK

The new document outlines the initial developments in EU member states and the UK regarding vaccine deployment plans and national vaccination strategies for COVID-19 vaccines, including interim considerations for priority groups, evidence to be considered for the prioritisation of target groups, logistical considerations and monitoring systems for post-marketing surveillance (e.g. vaccine coverage, safety, effectiveness and acceptance).

The overview is based on results from an ECDC survey and meeting among members of the EU/EEA National Immunisation Technical Advisory Groups (NITAG) Collaboration in October 2020 and a survey undertaken by the Health Security and Vaccination unit of the European Commission's Directorate-General for Health and Food Safety with members of the EU Health Security Committee (HSC) in November 2020.

Initial considerations for priority groups and underlying evidence

- All 31 EU countries and the UK responding to the ECDC survey have started evaluating available information with the goal of establishing interim recommendations for first priority groups for vaccination. As of 30 November 2020, nine countries had already published interim recommendations for priority groups (Austria, Belgium, Czechia, France, Luxembourg, the Netherlands, Spain, Sweden and the UK).
- Countries responding to the ECDC and the HSC surveys and those that have already published recommendations have primarily prioritised ***elderly people*** (with various lower age cut-off across countries), ***healthcare workers*** and those persons with ***certain comorbidities***. Some countries have started to prioritise further among the priority groups selected for first vaccination, as it is probable that vaccine doses will be in limited supply in the initial phase of the vaccination campaigns.
- Prioritisation groups may also be modified as more evidence becomes available about the COVID-19 disease epidemiology and characteristics of vaccines, including information on vaccine safety and efficacy by age and target group.
- Modelling different options for vaccine efficacy for different outcomes (including severe disease, mild disease, infection and infectivity, and death) and vaccine uptake in EU populations, as well as different scenarios for prioritisation, is an important step that will inform decisions on vaccination strategies and estimate their possible impact.

Logistical considerations

- For the roll-out of future COVID-19 vaccines, many countries will make use of existing vaccination structures and delivery services as much as possible. Responses from the HSC survey showed that some countries were planning ***to train more people to carry out the vaccinations***.
- Several countries indicated that there is a need to ***procure additional equipment for the cold-chain requirements*** due to the ultra-low temperature required for some of the COVID-19 vaccines.
- Most countries reported that COVID-19 vaccines will be ***provided free of charge*** for their citizens.

Infrastructure and use of joint procurement of items to carry out vaccinations	Countries
Use infrastructures already in place (deemed sufficient for deployment of vaccines)	Bulgaria, Hungary, Malta, the Netherlands, Sweden
Reviewing current infrastructure to ensure it is sufficient	Croatia, Denmark, France, Italy, Luxembourg, Portugal
Reviewing infrastructure to procure additional equipment for the cold chain	Austria, Belgium, Czechia, Denmark, Estonia, Finland, Greece, Latvia, Lithuania, Slovakia, Spain
Will use the joint procurement to purchase items required to carry out vaccinations	Austria, Belgium, Croatia, Czechia, Estonia, Finland, France, Germany, Latvia, Lithuania Malta, the Netherlands, Portugal, Romania, Spain, Slovakia, Slovenia
Will not use the joint procurement	Bulgaria, Hungary
Currently discussing use of the joint procurement	Denmark, Greece, Italy, Luxembourg, Sweden

System in place for the monitoring of COVID-19 vaccination status	Countries
Countries with electronic immunisation registry system currently in place and/or improving and/or developing their own system	Belgium, Croatia, Demark, Finland, Iceland, Italy, the Netherlands (in progress), Malta, Norway, Portugal, Romania, Slovenia, Spain, Sweden
Any other electronic system currently in place or being developed	Austria, Estonia, Germany, Greece, Hungary, Ireland, Lithuania, Luxembourg, Poland (being implemented), the UK
Countries who will use other systems already in place (e.g. insurance claim database, etc)	Latvia, Czechia, Germany
Electronic card	Estonia
Other (e.g. paper registry, etc)	Bulgaria, Cyprus, France, Hungary, Liechtenstein, Slovakia

Monitoring systems for vaccine coverage, safety, effectiveness, and acceptance

Electronic immunisation registries for the monitoring of individual and population-level vaccine uptake are available at the national or subnational level in 13 countries, and developments towards such national systems are ongoing in 10 further countries.

Two countries have an ***insurance-based system*** that will be used for the monitoring of vaccine uptake.

Documentation regarding which vaccine product has been administered and when is key to the success of vaccination programmes. Such documentation is also important for monitoring any safety signals, such as an adverse event following immunisation (AEFI) that may arise for any of the vaccine products. Information in these registries could serve as the basis for immunisation cards.

Planned COVID-19 vaccine delivery settings	Countries
Existing vaccination structures/ influenza vaccine structures	Austria, Croatia, Czechia, Estonia, Finland, France, Greece, Hungary, Italy, Lithuania, Malta, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain
Dedicated vaccination centres	Austria, Croatia, Czechia, Denmark, Estonia, Germany, Lithuania, Luxembourg, Malta, Romania, Sweden
GP practices	Austria, Croatia, Czechia, Estonia, Germany˜, Lithuania, Luxembourg#
Health care centres	Austria, Denmark, Estonia, Greece*, Iceland, Lithuania, Luxembourg, Malta, Poland, Slovenia, Spain, Sweden
Mobile vaccination teams/sites	Austria, Denmark, Estonia, Germany, Latvia, Luxembourg, Spain
Other delivery settings	Austria (company, medical offices), Czechia (hospitals, workplace), Estonia (workplaces, nursing care homes), Malta (long-term healthcare facilities)

Acceptance of COVID-19 vaccines

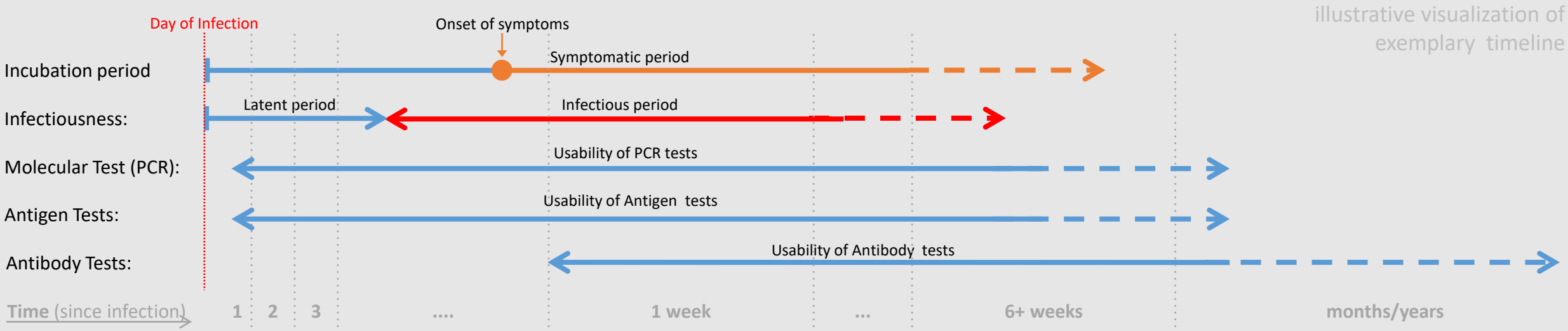
Belgium and Luxembourg have undertaken COVID-19 vaccine acceptance surveys in the general population. Luxembourg is also planning a survey among general practitioners. France, Germany, Lithuania and Spain reported that acceptance of COVID-19 vaccines will be monitored using surveys. No other information was provided on how acceptance of the vaccines will be monitored.

Communication on the benefits, risks and importance of COVID-19 vaccines

Based on responses from the HSC survey, 14 countries of 25 (Austria, Belgium, Bulgaria, Croatia, Denmark, Greece, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Portugal, Romania, Spain) were in the process of developing their communication plans. Seven countries (Belgium, Czechia, Finland, Germany, Malta, Slovakia, Slovenia) mentioned that their ministry of health, in some cases with close cooperation of other associations and institutes, would be responsible for the communication of the COVID-19 vaccines. Two countries (Estonia andHungary) mentioned having plans to centrally coordinate their communication with the help of experts and healthcare workers. Poland indicated it has started to develop a specific plan to centrally coordinate communication to the public with the help of experts and healthcare workers, and that this is an ongoing process. Sweden reported having a group of different agencies be responsible for the communication.

Source: https://www.ecdc.europa.eu/en/publications-data/overview-current-eu-eea-uk-plans-covid-19-vaccines

Timeline COVID-19 infection



	Molecular Tests	Antigen Tests	Antibody Tests
Also known as:	RT-PCR	Rapid diagnostic test	Serological test, serology, blood test, serology test
Applicable period:	From infection until at least 6 weeks after being symptom free	From infection until at least 6 weeks after being symptom free	As soon as 1 or 2 weeks after infection
How the sample is taken:	Nasal or throat swab (most tests) Saliva (a few tests)	Nasal or throat swab	Finger stick or blood draw
How long it takes to get results:	Several hours	Fast < 1h	Several hours or days
Is another test needed:	A second test is only needed to rule out false positive results	Positive results are usually accurate but negative results may need to be confirmed with a molecular test.	Sometimes a second antibody test is needed for accurate results.
What it shows:	Active coronavirus infection (i.e. **presence of SARS-CoV-2**)	Active coronavirus infection (i.e. **presence of protein fragments of SARS-CoV-2**)	If you've been **infected by coronavirus in the past**
What it can't do:	Show if you ever had COVID-19 or were infected with the coronavirus in the past. Show if you are currently infectious.	Definitively rule out active coronavirus infection. Antigen tests are more likely to miss an active coronavirus infection compared to molecular tests. Your health care provider may order a molecular test if your antigen test shows a negative result but you have symptoms of COVID-19.	Diagnose active coronavirus infection at the time of the test or show that you do not have COVID-19

Sources:
https://www.fda.gov/consumers/consumer-updates/coronavirus-testing-basics
https://www.sciencemediacenter.de/alle-angebote/fact-sheet/details/news/verlauf-von-covid-19-und-kritische-abschnitte-der-infektion/
https://www.apotheken-umschau.de/Coronavirus/Corona-Nachweis-Die-Testverfahren-im-Ueberblick-558071.html#Die-Testverfahren-im-Ueberblick:

In the press

This section aims at summarizing trending headlines with regards to COVID-19. The collection does not aim at being comprehensive and we would like to point out that headlines and linked articles are no scientific material and for information purposes only. The headlines and linked articles do not reflect NATO's or NATO MilMed COE FHPB's view. Feedback is welcome!

30th November 2020
DW
COVID-19 hinders fight against malaria in Africa
https://www.dw.com/en/covid-19-hinders-fight-against-malaria-in-africa/a-55772311

03rd December 2020
Aljazeera
CDC warns US of COVID-19 'rough times' as hospitalisations surge
https://www.aljazeera.com/news/2020/12/3/us-covid-19-hospitalisations-soar-to-100000-for-first-time

03rd December 2020
Financial Times
Frozen Covid vaccines can reach developing nations, says DHL
https://www.ft.com/content/d0adb123-3bbe-4c1f-9d7d-0d3efc8537a7

03rd December 2020
BBC
Coronavirus: Hackers targeted Covid vaccine supply 'cold chain'
https://www.bbc.com/news/technology-55165552

03rd December 2020
Aljazeera
Moderna plans to test COVID-19 vaccine on children
https://www.aljazeera.com/news/2020/12/3/moderna-plans-to-test-its-coronavirus-vaccine-on-children

03rd December 2020
Reuters
Moscow to open COVID-19 vaccination centres on Saturday – mayor
https://www.reuters.com/article/health-coronavirus-russia-vaccine/update-1-moscow-to-open-covid-19-vaccination-centres-on-saturday-mayor

02nd December 2020
The Guardian
UK approves Pfizer/BioNTech Covid vaccine for rollout next week
https://www.theguardian.com/society/2020/dec/02/pfizer-biontech-covid-vaccine-wins-licence-for-use-in-the-uk

29th November 2020
DW
Coronavirus digest: Singaporean woman passes on COVID antibodies to baby
https://www.dw.com/en/coronavirus-digest-singaporean-woman-passes-on-covid-antibodies-to-baby/a-55763634

27th November 2020
The Guardian
Escaped infected Danish mink could spread Covid in wild
https://www.theguardian.com/environment/2020/nov/27/escaped-infected-danish-mink-could-spread-covid-in-wild

The new normal!

In some places, as cases of COVID-19 go down, some control measures are being lifted.

But this doesn't mean we should go back to the 'old normal'.
If we don't stay vigilant and protect ourselves and others, coronavirus cases may go up again.

If we stop following the key protective measures, coronavirus can come rushing back.

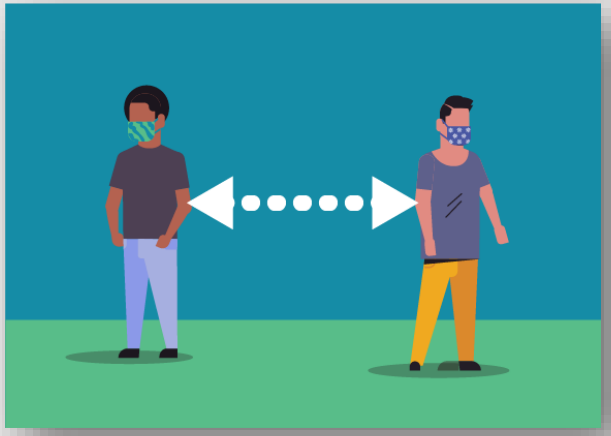
Now, more than ever, it's important that we all follow our national health authority's advice and be part of helping to prevent coronavirus transmission.

Wherever you are, you still need to protect yourself against COVID-19.

Even as restrictions are lifted, consider where you are going and stay safe.

The perfect wave – why masks are still important

	Mouth and nose protection	FFP2/FFP3 mask without valve	FFP2/FFP3 mask with valve
Protects wearer of mask	limited	✓	✓
Protects periphery	✓	✓	✗



NEW STUDY ON MOUTH NOSE PROTECTION AND SOCIAL DISTANCING

Unfortunately, in the epicenter of the new hot spots areas often enough people are seen who do not adhere to the still valid protective regulations such as social distancing and the correct wearing of a nose and mouth protection. It could be as simple as that - new studies show that these two measures make a significant contribution to reducing the probability of transmission.

In the case of protective masks with an advertised protective effect in connection with SARS-CoV-2, depending on the intended purpose, a distinction is made between two types:

Medical face masks (MNS; surgical (surgical) masks); are primarily used for third-party protection and protect the person against the exposure of potentially infectious droplets of the person wearing the face mask. Corresponding MNS protect the wearer of the mask if the fit is tight, but this is not the primary purpose of MNS. This is e.g. used to prevent droplets from the patient's breathing air from getting into open wounds of a patient. Since, depending on the fit of the medical face mask, the wearer not only breathes in through the filter fleece, but the breathing air is drawn in as a leakage current past the edges of the MNS, medical face masks generally offer the wearer little protection against aerosols containing excitation. However, you can protect the mouth and nose area of the wearer from the direct impact of exhaled droplets from the other person as well as from pathogen transmission through direct contact with the hands.

Particle-filtering half masks (FFP masks); are objects of personal protective equipment (PPE) in the context of occupational safety and are intended to protect the wearer of the mask from particles, droplets and aerosols. The design of the particle-filtering half masks is different. There are masks *without an exhalation valve* and masks *with an exhalation* valve. Masks without a valve filter both the inhaled air and the exhaled air and therefore offer both internal and external protection, although they are primarily designed for internal protection only. Masks with valves only filter the inhaled air and therefore **offer no external protection!!!**

As a large number of unrecognized people move around in public spaces without symptoms, mouth and nose protection protects other people, thereby reducing the spread of the infection and thus indirectly reducing the risk of becoming infected

Due to the occasion, it should be pointed out again and again, also by executives, that the correct way of wearing the mask is essential to achieve maximum protection. The mask wrong, e.g. for example, wearing it under the nose means accepting a possible infection of others.

FFP2 / 3 masks are still considered deficient equipment and should be kept available for healthcare workers and emergency services.

https://www.sueddeutsche.de/gesundheit/atemschutzmaske-coronavirus-maske-schutz-1.4867144
https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html
https://www.bfarm.de/SharedDocs/Risikoinformationen/Medizinprodukte/DE/schutzmasken.html